MATERIAL SAFETY DATA SHEET

Sodium Hydroxide Solution 0.02 N - 2 N

ACC# 40177

SECTION 1- Chemical Product and Company Identification

MSDS Name: Sodium Hydroxide Solution 0.02 N - 2 N
Catalog Numbers: SS277, GILHYD20, GILSODHYD20, HCSLN8670, NCP400712, NC500142, NC9608261, NC9653174, NC9655548, NC9728337, S27110LC, S7182512, SS266 1, SS266 20, SS266 4, SS266-1, SS266-20, SS266-4, SS26620, SS2664, SS2664LC, SS270 1, SS270 20, SS270 4, SS2701, SS27020, SS27020LC, SS2704, SS272 1, SS272 20, SS2721, SS27220, SS274 1, SS274 4, SS2741, SS276 1, SS276 20, SS276 4, SS276-1, SS276-20, SS276-4, SS2821, SS2824, SS284-1, XX82001LI, XX8650B4LI, XXNAOH5N20LI, XXNAOHSN20LI, XXOEO1120LI.

Synonyms: Caustic Soda; Soda Lye; Sodium Hydrate.

Company Identification:
Fisher Scientific
1 Reagent Lane
Fair Lawn, NJ 07410

For Information Call: 201-796-7100
Emergency Number: 201-796-7100
For CHEMTREC Assistance, call: 800-424-9300
For International CHEMTREC Assistance, call: 703-527-3887

SECTION 2 - Composition, Information on Ingredients

CAS #	CHEMICAL NAME	Percent	EINECS/ELINCS
1310-73-2	Sodium Hydroxide	0.08-8.0	215-185-5
7732-18-5	Water	99.6-99	213-791-2

HAZARD SYMBOLS: C
RISK PHRASES: 35

SECTION 2 - Hazards Identification

EMERGENCY OVERVIEW

Appearance: Clear. **DANGER!** Corrosive. Causes eye and skin burns. May cause respiratory tract irritation with possible burns. May cause severe digestive tract irritation with burns.

TARGET ORGANS: No Data Found.

POTENTIAL HEALTH EFFECTS

EYE: Causes eye burns. May cause chemical conjunctivitis and corneal damage.
SKIN: Causes skin burns. May cause deep, penetrating ulcers of the skin. May cause skin rash (in milder cases), and cold clammy skin with cyanosis or pale color.
INGESTION: May cause severe and permanent damage to the digestive tract. Causes gastrointestinal tract burns. May cause perforation of the digestive tract. Causes severe pain, nausea, vomiting, diarrhea, and shock. May cause systemic events.
Inhalation: Irritation may lead to pneumonitis and pulmonary edema. Causes severe irritation of

upper respiratory tract with coughing, burns, breathing difficulty, and possible coma. Causes chemical burns to the respiratory tract. Aspiration may lead to pulmonary edema. May cause systemic effects.
CHRONIC: Prolonged or repeated skin contact may cause dermatitis. Effects may be delayed.

SECTION 4 - First Aid Measures

EYES: Get medical aid immediately. Do NOT allow victim to rub or keep eyes closed. Extensive irrigation is required (at least 30 minutes).
SKIN: Get medical aid immediately: Immediately flush skin with plenty of soap and water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Discard contaminated clothing in a manner which limits further exposure.
INGESTION: Do NOT induce vomiting. If victim is conscious and alert, give 2-4 cups of milk or water. Never give anything by mouth to an unconscious person. Get medical aid immediately.
INHALATION: Get medical aid immediately. Remove from exposure to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. DO NOT use mouth-to-mouth respiration. If breathing has ceased apply artificial respiration using oxygen and a suitable mechanical device such as a bag or mask.
NOTES TO PHYSICIAN: Treat symptomatically and supportively.

SECTION 5 - Firefighting Measures

GENERAL INFORMATION: As in any fire, wear a self contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Use water spray to keep fire exposed containers cool. Use water with caution in flooding amounts. Vapors may be heavier than air. They can spread along the ground and collect in low or confined areas. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. Non-combustible, substance itself does not burn but may decompose upon heating to produce irritating, corrosive and/or toxic fumes.
EXTINGUISHING MEDIA: Do NOT get water inside containers. For small fires, use dry chemical, carbon dioxide, or water spray. For large fires, use dry chemical, carbon dioxide, alcohol-resistant foam, or water spray. Cool containers with flooding quantities of water until well after the fire is out.

SECTION 6 - Accidental Release Measures

GENERAL INFORMATION: Use proper personal protective equipment as indicated in Section 8.
SPILLS/LEAKS: Absorb spill with inert material, (e.g., dry sand or earth), then place into a chemical waste container. Avoid runoff into storm sewers and ditches that lead to waterways. Clean up spills immediately, observing precautions in the Protective Equipment section. Provide ventilation.

SECTION 7 - Handling and Storage

Handling: Wash thoroughly after handling. Use only in a well-ventilated area. Do not breathe dust, vapor, mist or gas. Do not get in eyes, on skin, or on clothing. Keep container tightly closed. Do not ingest or inhale. Discard contaminated shoes.
STORAGE: Keep container tightly closed when not in use. Store in a cool, dry, well-ventilated area away from incompatible substances. Keep away from strong acids. Keep away from metals. Keep away from flammable liquids. Keep away form organic halogens.

SECTION 8 - Exposure Controls, Personal Protection

ENGINEERING CONTROLS: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate ventilation to keep airborne concentrations low.

EXPOSURE LIMITS

Chemical Name	ACGIH	NIOSH	OSHA-FINAL PELS
Sodium Hydroxide	C 2 mg/m3	10 mg/m3 IDLH	2 mg/m3 TWA
WATER	None listed	None listed	None listed

OSHA VACATED PELs: Sodium Hydroxide: No OSHA Vacated PELs are listed for this chemical. Water: No OSHA PELs are listed for this chemical.
Personal Protective Equipment:
EYES: Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN 166.
SKIN: Wear appropriate protective clothing to prevent skin exposure.
RESPIRATORS: A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements or European Standard EN 149 must be followed whenever workplace conditions warrant a respirator's use.

SECTION 9 - Physical and Chemical Properties

PHYSICAL STATE: Liquid
APPEARANCE: Clear
ODOR: None reported
PH: Alkaline
VAPOR PRESSURE: 14 mm Hg
VAPOR DENSITY: > 1.0
EVAPORATION RATE: Not Available
VISCOSITY: > 1 (ether =1)
BOILING POINT: 212 deg F
FREEZING/MELTING POINT: 32 deg F
DECOMPOSITION TEMPERATURE: Not available
AUTOIGNITION TEMPERATURE: Not Applicable
FLASH POINT: Not applicable
NFPA RATING: Not Published
EXPLOSION LIMITS, LOWER: Not Available
UPPER: Not Available
SOLUBILITY: Completely soluble in water.
SPECIFIC GRAVITY / DENSITY: 1.0
MOLECULAR FORMULA: NaOH

SECTION 10 - Stability and Reactivity

CHEMICAL STABILITY: Stable at room temperature in closed containers under normal storage and handling conditions.
CONDITIONS TO AVOID: Incompatible materials, acids.
INCOMPATIBILITIES WITH OTHER MATERIALS: Strong bases, strong oxodizing agents, strong reducing agents, metals.
HAZARDOUS DECOMPOSITION PRODUCTS: Toxic fumes of sodium oxide, sodium peroxide fumes.
HAZARDOUS POLYMERIZATION: Has not been reported.

SECTION 11 - Toxicological Information

RTECS #:
CAS#: 1310-73-2 WB4900000
CAS#: 7732-18-5 ZC0110000
LD50 / LC50: Not Available

CAS# 7732-18-5:
Oral, rat: LD50= >90mL/kg;
CARCINOGENICITY:
CAS# 1310-73-2: Not listed by ACGIH, IARC, NIOSH, NTP, or OSHA.
CAS# 7732-18-5: Not listed by ACGIH, IARC, NIOSH, NTP, or OSHA.

EPIDEMIOLOGY: No information found.
TERATOGENICITY: No information found.
REPRODUCTIVE EFFECTS: No information found.
NEUROTOXICITY: No information found.
MUTAGENICITY: No information found.
OTHER STUDIES: See actual entry in RTECS for complete information.

SECTION 12 - Ecological Information

ECOTOXICITY: Not Available.
ENVIRONMENTAL FATE: Not Available.
PHYSICAL / CHEMICAL: Not Available.
OTHER: Not Available.

SECTION 13 - DISPOSAL CONSIDERATIONS

Chenical waste generators must determine whether a discarded chemical is classified as a hazardous waste.US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3 Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.

RCRA P-Series: None Listed.
CRA U - Series: None Listed.

SECTION 14 - Transportation Information

	US DOT	IATA	RID / ADR	IMO	CANADA TDG
Shipping Name	**Sodium Hydroxide Solution**				**Sodium Hydroxide Solution**
HAZARD CLASS:	**8**				**8(9.2)**
UN NUMBER:	**UN1824**				**UN1824**
PACKING GROUP:	**II**				**II**

SECTION 15 - Regulatory Information

U.S. FEDERAL

TSCA
CAS # 1310-73-2 is listed on the TSCA inventory.
CAS # 7732-18-5 is listed on the TSCA inventory.

HEALTH & SAFETY REPORTING LIST
None of the chemicals are on the Health & Safety Reporting List.
CHEMICAL TEST RULES
None of the chemicals in this product are under a chemical test rule.
SECTION 12b
None of the chemicals are listed under TSCA Section 12b.
TSCA SIGNIFICANT NEW USE RULE
None of the chemicals in this material have a SNUR under TSCA.

SARA
SECTION 302 (RQ)
CAS # 1310-73-2: final RQ=1000 pounds (454 kg)
SECTION 302 (TPQ)
None of the chemicals in this product have a TPQ.
SARA CODES
CAS # 1310-73-2: acute, reactive.
SECTION 313:
No chemicals were reportable under Section 313.
CLEAN AIR ACT:
This material does not containe any hazardous air pollutants. This material does not contain any Class 1 Ozone depletors. This material does not contain any Class 2 Ozone depletors.
CLEAN WATER ACT:
CAS # 1310-73-2 is listed as a Hazardous SUbstance under CWA. None of the chemicals in this product are listed as Priority Pollutants under CWA. None of the chemicals in this product are listed as Toxic Pollutants under the CWA.
OSHA:
None of the chemicals in this product are considered highly hazardous by OSHA.
STATE:
CAS # 1310-73-2 can be found on the following state right to know lists: California, New Jersey, Florida, Pennsylvania, Minnesota, Massachusettes.
CAS # 7732-18-5 is not present on state lists from CA, PA, MN, MA, FL, or NJ.
California No Significant Risk Level: None of the chemicals in this product are listed.

EUROPEAN / INTERNATIONAL REGULATIONS
EUROPEAN LABELING IN ACCORDANCE WITH EC DIRECTIVES

HAZARD SYMBOLS: C

RISK PHRASES:
R 35 Causes severe burns.
SAFETY PHRASES:
S 26 Incase of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S 37 / 39 Wear suitable gloves and eye/face protection.
S 45 In case of accident or if you feel unwell, seek medical advice immediately. (show the label where possible).

WGK (Water Danger/Protection)
CAS # 1310-73-2 : 1
CAS # 7732-18-5 : No information available.

CANADA
CAS # 1310-73-2 is listed on Canada's DSL/NDSL list.
CAS # 7732-18-5 is listed on Canada's DSL/NDSL list.
This product has a WHMIS classification of E.
CAS # 1310-73-2 is not listed on Canada's ingredient disclosure list.
CAS # 7732-18-5 is not listed on Canada's ingredient disclosure list.

EXPOSURE Limits
CAS # 1310-73-2: OEL-AUSTRALIA: TWA 2 mg/m3 OEL-Belgium:STEL 2mg/m3 OEL-DENMARK:TWA 2mg/m3 OEL-FINALND:TWA 2 mg/m3 OEL-FRANCE:TWA 2 mg/m3 OEL-GERMANY:TWA 2 mg/m3 OEL-JAPAN:STEL 2mg/m3 OEL-NETHERLANDS:TWA 2 mg/m3 OEL-THE PHILLIPINES:TWA 2 mg/m3 OEL-SWEDEN:TWA 2mg/m3 OEL-TURKEY:TWA 2 mg/m3 OEL-UNITED KINGDOM:TWA 2 mg/m3 OEL-BULGARIA,COLOMBIA, JORDAN, KOREA check ACGIH TLV OEL in NEW ZEALAND, SINGAPORE, VIETNAM check ACGI TLV.

SECTION 16 - Additional Information

MSDS CREATION DATE: 12/12/1997
REVISION #5 DATE: 08/02/2000